

Oceanic Radiance and Imaging: FLIP Support for September '08 Experiment

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LONG-TERM GOALS

The original long-term goal of this work was to expand the capabilities of R/P FLIP by installing a new starboard boom to match the capabilities of the existing port boom. Following the destruction of the port boom during the Santa Barbara experiment in 2008 and contamination of data by sewage from FLIP, the goals and budget were expanded to construct a new port boom and holding tanks for waste water and sewage.

OBJECTIVES

In addition to the long-term goal, the objectives of this work were to undertake a sea trial of the new starboard boom prior to its use in the RaDyO Santa Barbara Channel Experiment in September 2008, and to provide tug, and other support for towing and mooring FLIP. With construction of the new port boom and holding tanks, a successful two-day test deployment was carried out off San Diego in spring 2009.

APPROACH

The new booms and holding tanks were designed and fabricated at the Marine Physical Laboratory (MPL), Scripps Institution of Oceanography. Tug and other logistical support for the boom sea-trial and the Santa Barbara Channel Experiment were arranged by Capt. William Gaines of MPL.

WORK COMPLETED

All of the work described above was completed prior to FLIP being towed to Pearl Harbor for the Hawaii experiment in August 2009

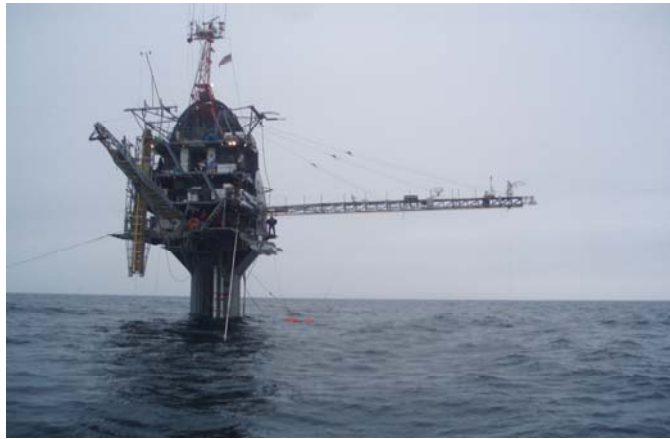
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RESULTS

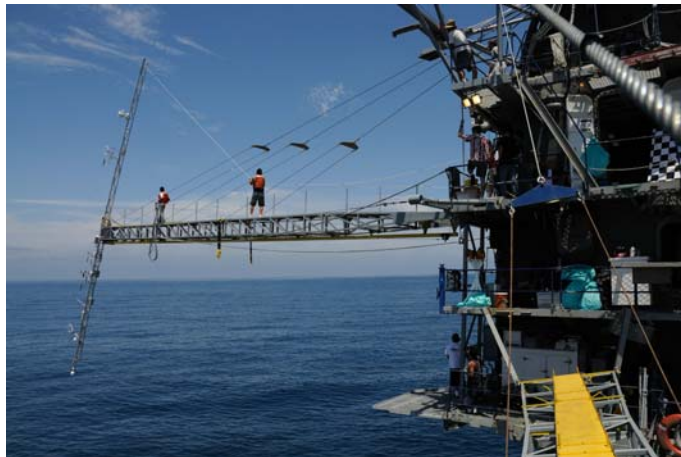
The construction of the new starboard boom significantly improved the capability of R/P FLIP, and in view of the damage to the port boom during the SBC Experiment, the availability of the new starboard boom was critical to the success of the FLIP component of the experiment.

The scientific results that depended on the availability of the starboard boom will be reported by the individual PIs who used it to deploy instruments.

Figure 1 shows FLIP moored during the SBC Experiment with the starboard boom extending to the right from FLIP, and the damaged port boom lashed to the hull of FLIP.



***Figure 1: R/P FLIP deployed in the Santa Barbara Channel in September 2008.
The new starboard boom extends off to the right from FLIP.***



***Figure 2: New port boom deployed during the Hi-Res June 2009 pilot Experiment off
Southern California.***

Figure 2 shows the new port boom during an ONR Hi-Res pilot experiment off the coast of Southern California in June 2009. Figure 3 shows the two waste-water tanks designed,

constructed and installed at MPL prior to the departure of FLIP for the Hawaii experiment in August-September, 2009.



Figure 3: Waste holding tanks: At dock in San Diego prior to HI departure (early August 2009)

IMPACT/APPLICATIONS

The new booms and holding tanks have had a significant impact on the capabilities of FLIP to support not just RaDyO and the Hi-Res DRIs but also many areas of air-sea interaction research and, more generally, any programs requiring a stable platform for upper ocean and lower atmosphere research.

RELATED PROJECTS

The work completed under this grant is related to all the RaDyO projects that have used FLIP. It will also have a positive impact on FLIP's capabilities for the Hi-Res DRI.

REFERENCES

None.

PATENTS

None

HONORS/AWARDS/PRIZES

None